NHHPC Education Asteroid Contest

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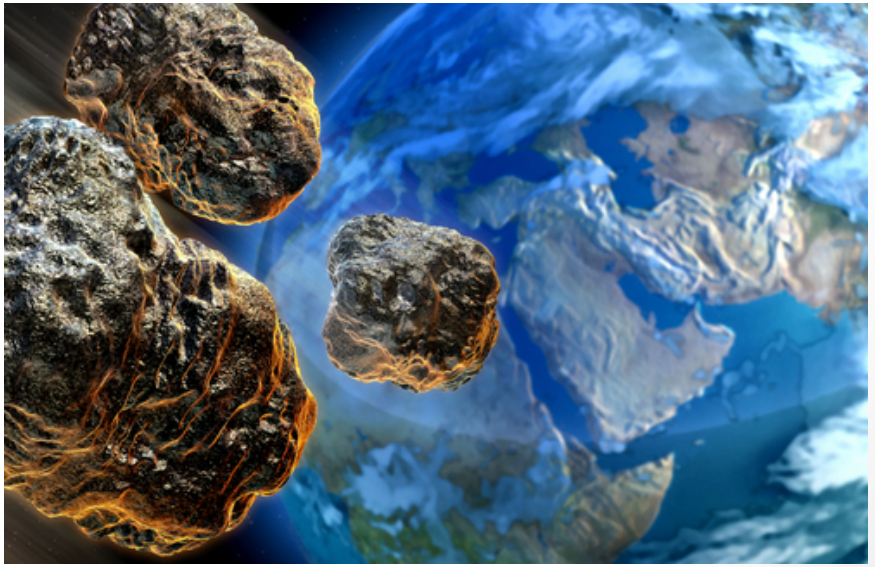
Purpose

- Traveling to an asteroid can be very lucrative. Asteroids can contain valuable minerals and scientific information relating to our past and even future

- But in order to mine these valuable treasures humans must be the ones to investigate and explore



Water

- Some of these asteroids may take months to reach even with todays fastest rockets.
- This means that a source of clean water would have to be provided for the brave explorers.
- All efforts to recycle water should be made because it is extremely expensive to transport.

Algae+Waste=Clean Water

Algae Research

- We have been studying and growing algae.
- We visited RIT where Dr. Jeffery Lodge, who taught us about using algae to clean waste water. The algae can then be used for food or biofuel
- We grew Scenedesmus in our algae bioreactor and used it to produce potable water from waste water.

Exercise

- Exercise is very important for those living in long term microgravity conditions.

- Astronauts must exercise for 2 hours a day to prevent loss of bone mass.

Our Equipment

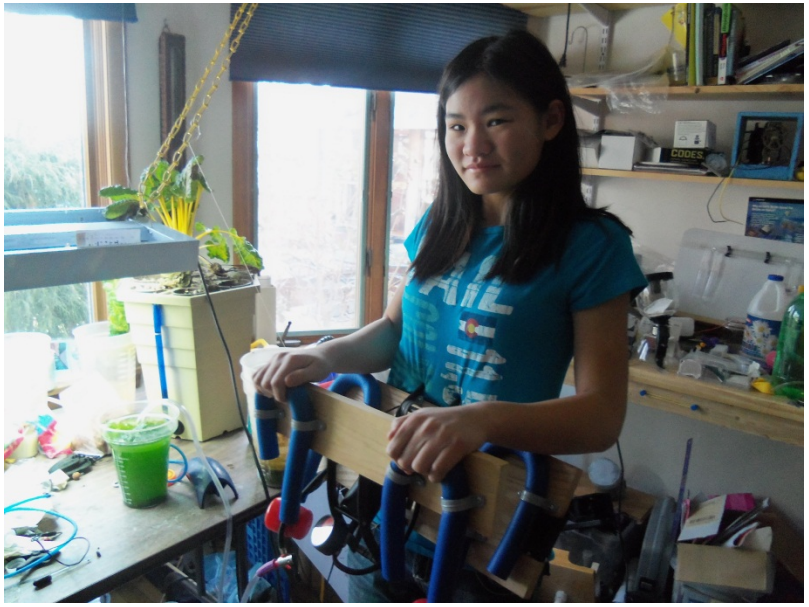
- We have developed purposeful astronaut exercise equipment. This equipment is used to perform work while astronauts do their mandatory exercise program. Our equipment is used to power our algae bioreactor
- Here is one of our designs, a piece of equipment that strengthens the upper while pumping water

Exercise Centrifuge

- Centrifuges are particularly important in conditions of microgravity. They allow for separation of materials in the absence of gravity.

Putting it all Together

- To survive in space efficiency is crucial. There should be no wasted time or energy. Exercise of two hours is critical to maintain the health of astronauts.
- Algae bioreactors can be used to recycle water and produce food and fuel. By using our equipment astronauts can put their exercise towards a useful cause.



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